

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONSTRUCTION PERMIT

Permit No. 227CP01
Application No. X-170

Final – March 11, 2003

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues a construction permit to the permittee, **TDX North Slope Generating, Inc.** for the installation of Diesel and Gas reciprocating internal combustion generator drivers at the **Deadhorse Power Plant**.

This permit satisfies the obligation of the owner and operator to obtain a construction permit as set out in AS 46.14.130(a).

As required by AS 46.14.120(c), the permittee shall comply with the terms and conditions of this construction permit.

John F. Kuterbach, Manager
Air Permits Program

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List of Abbreviations Used in this Permit

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS.....	Alaska Statutes
ASTM.....	American Society of Testing and Materials
CFR.....	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
dscf.....	Dry standard cubic feet
EPA	US Environmental Protection Agency
gr/dscf.....	grain per dry standard cubic feet (1 pound = 7000 grains)
GPH.....	gallons per hour
HAPS.....	Hazardous Air Pollutants [hazardous air contaminants as defined in AS 46.14.990(14)]
ID.....	Source Identification Number
MACT	Maximum Achievable Control Technology
Mlb	thousand pounds
NESHAPs.....	Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 CFR 61]
NSPS.....	Federal New Source Performance Standards [as defined in 40 CFR 60]
PPM.....	Parts per million
PS	Performance specification
PSD	Prevention of Significant Deterioration
RM.....	Reference Method
SIC.....	Standard Industrial Classification
SO ₂	Sulfur dioxide
TPH.....	Tons per hour
TPY	Tons per year
VOC	volatile organic compound [as defined in 18 AAC 50.990(103)]
Wt%.....	weight percent

Section 1. Identification

Names and Addresses

Permittee:	TDX North Slope Generating, Inc. Deadhorse Power Plant Deadhorse, Alaska
Facility:	Deadhorse Power Plant
Location:	Latitude 70° 11' 40.9" N / 148° 27' 54" W Longitude
Physical Address:	Tract 72, ASL No. 76-227 Deadhorse, AK
Owner:	TDX-North Slope Generating, Inc. Two West Market Street, 4 th Floor West Chester, PA 19382 (TDX – North Slope Generating, Inc. is wholly owned by TDX Power, Inc.)
Operator:	TDX-North Slope Generating, Inc. Two West Market Street, 4 th Floor West Chester, PA 19382
Permittee's Responsible Official:	Mr. Bruce Levy, President TDX Power, Inc. Two West Market Street, Suite 400 West Chester, PA 19382 610-918-8581 (voice) 610-918-8583 (fax)
Designated Agent:	None
Facility and Building Contact:	To be determined
Fee Contact:	Mr. Bruce Levy, President TDX Power, Inc. Two West Market Street, Suite 400 West Chester, PA 19382
Facility Process Description	Electric Services. Engaged in the generation, transmission, and/or distribution of electric energy for sale.
SIC Code of the Facility:	4911

Section 2. *General Emission Information*

Emissions of Regulated Air Contaminants, as provided in the permittee's application:

Oxides of Nitrogen (NO_x), Carbon Monoxide (CO), Particulate Matter (PM-10), Sulfur Dioxide (SO₂), and Volatile Organic Compounds (VOC).

Construction Permit Classifications:

- a) The Deadhorse Power Plant is classified as a Prevention of Significant Deterioration Major (PSD) Facility as defined in 18 AAC 50.300 (c)(1) because it has the potential to emit more than 250 tons per year of a regulated air containment.
- b) However, the permittee has requested limits under 18 AAC 50.305 (a)(4) to avoid classifying this facility as a PSD Facility under one or more subsections of 18 AAC 50.300(c).

Section 3. Source Inventory and Description

Sources listed below have specific monitoring, record keeping, or reporting conditions in this permit. Source descriptions and ratings are given for identification purposes only.

Condition 1. This permit authorizes the installation of the sources listed in Table 1.

**Table 1. Source Inventory
Existing Equipment**

Source ID	Source Name	Source Description	Fuel Type	Rating / Size	Installed
1	Diesel Back Up Generator #1	CAT D 3512	Diesel	1,206 Hp [887 kW] @ 1,200 RPM	1989
2	Gas Peaking Generator #2	CAT G 3516	Gas	1,152 Hp [850 kW] @ 1,200 RPM	1992
3	Gas Peaking Generator #3	CAT G 3516	Gas	1,152 Hp [850 kW] @ 1,200 RPM	1989
4	Diesel Back Up Generator #4	CAT D 3512	Diesel	1,206 Hp [887 kW] @ 1,200 RPM	1989
5	Diesel Back Up Generator #6	EMD V20-645E	Diesel	3,600Hp [2,647 kW] @ 900 RPM	1982
6A	Diesel Main Generator #11*	CAT D 3616	Diesel	6,196Hp [4,559 kW] @ 900 RPM	1991
7	Diesel Back UP Generator # 12	CAT D 343	Diesel	406 Hp [299 kW] @ 1,800 RPM	1970
8	Above Ground Fuel storage Tank #13, > 75 cubic meters, NSPS subpart Kb		Diesel	20,000 gallons	1992
9	Above Ground Fuel storage Tank #14		Diesel	5,000 gallons	1992
6	Gas Main Generator #11	CAT G 3616	Gas	4,811Hp [3,538kW] @ 900 RPM	Future

* The existing CAT D 3616 Diesel engine, Source ID 6A will be replaced by a new CAT G 3616 Gas engine Source ID 6.

Condition 2. Within 30 days after the permit issue date, submit to the department a copy of the engine vendor data sheets for Source IDs 1, 2, 3, 4, 5, 6 and 7, that include:

- 2.1 make,
- 2.2 type,
- 2.3 serial number,
- 2.4 rating,
- 2.5 year of build,
- 2.6 fuel control settings, and
- 2.7 engine fuel injection timing settings.

Section 4. Assessable Emissions Estimates

Condition 3. Assessable Emissions. The permittee shall pay to the department annual emission fees based on the facility's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air contaminant that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of

- 3.1 the facility's assessable potential to emit of 503 tons per year; or
- 3.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the department, when demonstrated by
 - a. an enforceable test method described in 18 AAC 50.220;
 - b. material balance calculations;
 - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
 - d. other methods and calculations approved by the department.

[18 AAC 50.400-420 & 18 AAC 50.346(a)(1), 8/15/02]

Condition 4. Assessable Emissions Estimates.

- 4.1 No later than March 31 of each year, the permittee may submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates; or
- 4.2 If no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set out in Condition 3.1.

[18 AAC 50.400-420 & 18 AAC 50.346(a)(1), 8/15/02]

Section 5. Ambient Air Quality

Condition 5. No later than October 31, 2003, extend the existing exhaust stacks or replace with stacks that meet the requirements of Table 2.

- 5.1 **No later than November 30, 2003** after this permit is issued submit to the department a written notice listing the date by which the stack modifications are completed, and report the “as-built” stack heights, orientation/location-plan and inside diameter of each stack after the modification. Include photographs showing each stack relative to the power plant building and surrounding terrain.

Table 2
Stack Modifications

Source ID	Source description	Stack Height		Stack orientation	Stack rain cap
		Existing Height [m]	Minimum modified Height [m]		
1	CAT D 3512	9.14	15.00	Vertical	No
2	CAT G 3516	10.67	14.00	Vertical	No
3	CAT G 3516	10.67	14.00	Vertical	No
4	CAT D 3512	10.67	15.00	Vertical	No
5	EMD V20-645E	13.72	16.00	Vertical	No
6	CAT G 3616	11.89	13.72	Vertical	No
7	CAT D 343	8.23	14.00	Vertical	No
<ul style="list-style-type: none"> Stack height is the height in meters [m] measured from the existing grade to the top of the stack. The inside diameter of the modified stack is the same as the existing stack diameter. 					

Condition 6. Permanently replace Source ID 6A with Source ID 6 no later than **October 31, 2003**.

- 6.1 Within two days after Source ID 6 initial startup, disconnect / blind off the fuel supply and return lines of the Source ID 6A (CAT D 3616 diesel generator);
- 6.2 **No later than August 31, 2004**, remove the Source ID 6A from the Power Plant Property. Submit to the department a written notice; listing the date during which Source ID 6A was removed from the facility.
- 6.3 Within 5 days after **initial start up of Source ID 6**, submit to the department a written notice; listing the date of the initial start up of Source ID 6.

Condition 7. Notwithstanding the regulations set forth in 18 AAC 50.300(h), the permittee shall notify the department, in accordance with the following conditions, within 7 days after:

- 7.1 Installing a stationary emission source at the facility that is not listed in Table 1 or
- 7.2 Making a physical or operational change to a source listed in Table 1 that would cause a net increase in the emissions of a regulated air contaminant.

Condition 8. Track and report in the Facility Operating Report required by Condition 37, the use of permanent and temporary non-road engines installed after final issue date of this permit that have a size rating greater than 200 Brake Horsepower. Include in the report: the engine's size, serial number and tag number if assigned, and the dates that the engine arrived at the facility, initially started up on-site, finally shut down on-site, and was removed from the facility.

Condition 9. Use only fuel oil with a sulfur content of no more than 0.2 percent by weight in Source ID 1, 4, 5 and 7.

- 9.1 Compliance with Condition 9 is assured by using a grade of fuel that limits sulfur content to no more than 0.2 percent by weight.
- 9.2 Obtain a certification of sulfur content for fuel shipments of 0.2% sulfur and a statement or receipt from the fuel supplier for any other fuel shipments received that certifies either the fuel sulfur content or that the fuel grade is DF-1 or DF-2. If a certificate is not available from the supplier, then analyze a representative sample of the fuel to be combusted to determine the sulfur content using ASTM method D129-00, D1266-98, D1552-95, D2622-98, D4294-98, D4045-99 or an alternative method approved by the department.
- 9.3 Record the fuel sulfur content or the fuel grade of each fuel oil shipment.

- 9.4 Report under Condition 36 whenever fuel combusted does not meet the 0.2% requirement of Condition 9.
- 9.5 Attach copies of the records required by condition 9.2 with the facility operating reports required by Condition 37.

Condition 10. Use only gas fuel with a total Sulfur content of no more than 100 ppm by volume in Source IDs 2, 3 and 6.

- 10.1 Obtain a semiannual statement or receipt from the fuel supplier certifying the fuel gas sulfur concentration in ppm. If a certificate is not available from the supplier, then analyze a representative sample of the fuel no less than once each six months to determine the sulfur content using 40 CFR 60, Appendix A, Method 11 or an alternative method approved by the department.
- 10.2 Report under Condition 36 "*Excess Emission and Permit Deviation Reports*" whenever the total sulfur concentration of the fuel gas obtained or analyzed exceeds 100 ppm.
- 10.3 Record the total sulfur concentration of the fuel gas required under condition 10.1.
- 10.4 Attach copies of the records required by condition 10.1 with the facility operating reports required by Condition 37.

Condition 11. Hour restrictions

- 11.1 Upon Unit 6 startup, limit the cumulative operating hours for:
 - a. Each of Source IDs 1 and 4 not to exceed a total of 500 hours per 12 month rolling period.
 - b. Source ID 5 not to exceed a total of 1,700 hours per 12 month rolling period.
 - c. Source ID 7 not to exceed a total of 250 hours per 12 month rolling period.
- 11.2 Before initial startup of Source ID 6, equip each of Source Nos. 1, 4, 5 and 7 with a dedicated engine hour meter. Not later than **November 30, 2003**, submit to the department the vendor data and copies of the technical data of the installed engine operation hours meter.
- 11.3 For Source IDs 1, 4, 5, and 7, record the hour-meter reading no less than once each calendar month after startup of Source ID 6.
- 11.4 Report as set out in **Condition 37** "*Facility Operating Reports*" the twelve-month rolling total hours of operation of the Source IDs 1, 4, 5, and 7.

Condition 12. Fuel Consumption Limit

- 12.1 Limit total on-site fuel oil consumption to no greater than 400,000 gallons per 12-month rolling period upon installation of Source ID 6.
- 12.2 Before initial startup of Source ID 6 equip each of Source IDs 1, 4, 5 and 7 with dedicated certified fuel meters, accurate to +/- 5 percent error. Not later than **October 31, 2003**, submit to the department the vendor data and copies of the fuel meter certification. Re-certify the fuel meters no less than once every 60 months after the installation date of the fuel meters.
- 12.3 Upon initial startup of Source ID 6, monitor and record the diesel fuel consumption for each diesel source in operation (gallons) no less than once a month. Calculate and record the total diesel fuel consumption per 12-month rolling period by summing the monthly fuel consumption for all fuel burning equipment.
- 12.4 Report as set out in **Condition 37** "*Facility Operating Reports*" the facility total twelve-month rolling period diesel consumption.

Section 6. State Industrial Processes and Fuel Burning Equipment Emission Standards

Visible Emissions

Condition 13. The permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source IDs 1 through 7 listed in Table 1 to reduce visibility through the exhaust effluent by any of the following:

- a. greater than 20 percent for more than three minutes in any one hour¹,
[18 AAC 50.055(a)(1), 1/18/97, 40 CFR 52.70, 11/18/97]
- b. more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.055(a)(1), 18 AAC 50.346(c), 05/03/002]
[18 AAC 50.320(a)(2), 1/18/97]

13.2 Monitor, record, and report visible emissions for Source IDs 1, 4, 5, 6A, and 7 according to Section 12. Conduct an initial Method 9 visible emission reading of Sources 2 and 3 for no less than 18 minutes duration each within 90 days after the permit issue date. Conduct an initial Method 9 visible reading of Source 6 of no less than 18 minutes duration within 30 days after initial startup.

13.3 Use only gas fuel in Source ID 2, 3, and 6. Certify in each operating report required under Condition 37 that the sources burn only natural gas fuel.

[18 AAC 50.040(a)(2), 7/1/99]
[18 AAC 50.055(a)(1), 1/18/97]
[18 AAC 50.320(a)(2)(A-E), 1/18/97]

Particulate Matter

Condition 14. The permittee shall not cause or allow particulate matter emitted from Source IDs 1 through 7 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

14.1 Monitor, record, and report Source IDs 1, 4, 5, 6A, and 7 according to Section 12.

[18 AAC 50.055(b)(1), 1/18/97]
[18 AAC 50.350(d), 6/21/98]
[18 AAC 50.320(a)(2), 1/18/97]

¹ For purposes of this permit, the "more than three minutes in any one hour" criterion in this Condition will no longer be effective when U.S.EPA. incorporates the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 into the Alaska State Implementation Plan.

Sulfur Compound Emissions

Condition 15. The permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from Source IDs 1 through 7 to exceed 500 PPM averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

15.1 Use diesel fuel with a sulfur content of no more than 0.2 percent by weight in Source ID 1, 4, 5 and 7.

a. Conduct monitoring, record keeping, and reporting in accordance with Condition 7.

[18 AAC 50.350(g)-(i), 1/18/97]

15.2 Fuel Gas: Use gas fuel with a total Sulfur content of no more than 100 ppm by volume in Source IDs 2, 3 and 6. Conduct monitoring, record keeping and reporting in accordance with Condition 10.

[18 AAC 50.350(g)-(i), 1/18/97]

Section 7. Federal New Source Performance Standards

Volatile Organic Liquid Storage Vessels New Source Performance Standard, 40 CFR 60 Subpart Kb

Condition 16. For Source ID 8 the permittee shall keep readily accessible records for the life of the tank showing the dimensions and an analysis showing the capacity of the storage vessels.

[18 AAC 50.040(a)(2)(M), 1/18/97]
[Federal Citation: 40 C.F.R. 60.110b(c) & 40 C.F.R. 60.116b(a)-(b), 7/1/99]

Section 8. Owner Requested Limits to Avoid Classification as a PSD Major Modification

Nitrogen Compound Emissions Limit

Condition 17. To avoid classification as a prevention of significant deterioration (PSD) major facility, the permittee must limit the facility NO_x emissions to no greater than 246 tons per 12 month rolling period by:

- 17.1 Limiting the diesel fuel fired source NO_x emissions to no greater than 139 tons per 12-month rolling period.
- 17.2 Limiting the gas fuel fired source NO_x emissions to no greater than 107 tons per 12-month rolling period.

Operating Limit

Condition 18. Upon Unit 6 startup, limit the cumulative operating hours:

- 18.1 For each of Source IDs 1 and 4 not to exceed a total of 500 hours per 12 month rolling period.
- 18.2 For Source ID 5 not to exceed a total of 1,700 hours per 12 month rolling period.
- 18.3 For Source ID 7 not to exceed a total of 250 hours per 12 month rolling period.

Monitoring and Recording

Condition 19. Upon initial start up of Source ID 6 monitor and record the date, the unit, number, the hours of operation and the daily diesel fuel oil consumption for each fuel oil source in operation (gallon) and daily gas fuel consumption for each natural gas source (mscf). Note which of the units burn fuel oil and which of the units burn natural gas.

- 19.1 Before initial start up of Source ID 6, equip the Source IDs 1, through 7 with dedicated certified fuel meters, accurate to less than five percent error.
- 19.2 Not later than **November 30, 2003**, submit to the department the meter specifications and copies of the certificates of the installed fuel meters.
- 19.3 Re-certify the fuel meters for Source ID 1, through 7 every 60 months after installation date of the fuel meters.
- 19.4 Before initial start up of Source IDs 6, equip the Source IDs 1, through 7 with a dedicated meter to total the operating hours of each source.

19.5 Not later than **November 30, 2003**, the permittee shall submit the department the vendor specifications for each of the installed engine operation hour meters.

Condition 20. After **October 31, 2003**, except as provided for in Condition 20.2, calculate the daily NO_x emission rate for each emission unit (expressed as NO₂) by multiplying the fuel specific emission rate (worst case vendor data) as listed in Section 16, by the unit's daily fuel consumption. For any period during which daily fuel consumption records are not recorded or records are suspect, then use the maximum design fuel consumption for each recorded hour of source operation. The permittee may upon written approval use Site-specific emission factors.

Formula: $E = F \times C$

where: E = Emission rate [lb/day]

F = Fuel Factor [lb/gallon or lb/Mscf]

C = Fuel consumption [gallon/day or lb/Mscf]

- 20.1 Calculate and record the monthly NO_x emission rate by summing the daily NO_x emission rate of each source. Calculate and record the diesel equipment NO_x emissions and gas-fired equipment NO_x emissions per 12-month rolling period by summing the monthly NO_x emissions.
- 20.2 If the total 12-month rolling NO_x emissions for all the facility sources exceed 225 tons, then within 60 days conduct an emission source test on each source. The emission source test shall represent no less than 4 loads of each unit, including the minimum, maximum and two mid range load points. Conduct the test in accordance with 40 CFR 60, Appendix A Test Method 7E. Monitor and record each unit's fuel consumption during the emission source test. Derive a fuel-specific NO_x emission factor for each load using emission rate methodology as is set out in 40 CFR 60 Appendix A, Method 19. Upon department approval, use site- and fuel-specific emissions factors and the methodology described in Condition 20 to calculate the 12-month rolling period emissions for each unit.

Reporting

Condition 21. After **October 31, 2003**, report as set out in **Condition 37** "*Facility Operating Reports.*"

- 21.1 The twelve-month rolling period total hours of operation of the Source IDs 1, 4, 5, and 7.
- 21.2 The twelve-month rolling period total NO_x emissions from the gas-fired sources.
- 21.3 The twelve-month rolling period total NO_x emissions from the diesel-fired sources.

Section 9. *Generally Applicable Requirements*

Condition 22. Air Pollution Prohibited. No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. [18 AAC 50.110]

Condition 23. Monitoring, Record Keeping, and Reporting for Air Pollution Prohibited.

- 23.1 If emissions present a potential threat to human health or safety, the permittee shall report any such emissions according to condition.
- 23.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the permittee shall investigate the complaint to identify emissions that the permittee believes have caused or are causing a violation of Condition 22.
- 23.3 The permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if
 - a. After an investigation because of a complaint or other reason, the permittee believes that emissions from the facility have caused or are causing a violation of Condition 22; or
 - b. The department notifies the permittee that it has found a violation of Condition 22.
- 23.4 The permittee shall keep records of
 - a. The date, time, and nature of all emission complaints received;
 - b. The name of the person or persons that complained, if known;
 - c. A summary of any investigation, including reasons the permittee does or does not believe the emissions have caused a violation of Condition 22; and
 - d. Any corrective actions taken or planned for complaints attributable to emissions from the facility.
- 23.5 With each facility operating report under Condition 37, the permittee shall include a brief summary report which must include:
 - a. The number of complaints received;

- b. The number of times the permittee or the department found corrective action necessary;
- c. The number of times action was taken on a complaint within 24 hours; and
- d. The status of corrective actions the permittee or department found necessary that were not taken within 24 hours.

23.6 The permittee shall notify the department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.346(a)(3)]

Condition 24. Stack Injection. The permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the department.

[18 AAC 50.055(g) & 18 AAC 50.310(m), 1/18/97]

Section 10. General Source Testing and Monitoring Requirements

Condition 25. Requested Source Tests. In addition to any source testing explicitly required by this permit, the permittee shall conduct source testing as requested by the department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 8/15/02][18 AAC 50.345(k), 8/15/02]

Condition 26. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the permittee shall conduct source testing:

- 26.1 At a point or points that characterize the actual discharge into the ambient air; and
- 26.2 At the maximum rated burning or operating capacity of the source or another rate determined by the department to characterize the actual discharge into the ambient air.

[18 AAC 50.220(b)&(C), 8/15/02 [18 AAC 50.320(a)(2)(A-C), 8/15/02]]

Condition 27. Reference Test Methods. The permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

- 27.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.220(b), & (c), 8/15/02]
[18 AAC 50.320(a)(2)(A-C), 8/15/02]

- 27.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.220(b), & (c), 8/15/02][18 AAC 50.320(a)(2)(A-C), 8/15/02]

- 27.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.220(b) & (c), 8/15/02][18 AAC 50.320(a)(2)(A-C), 8/15/02]

- 27.4 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Section 13, Visible Emission Evaluation Procedures. Visible emission source testing is exempt from the requirements listed in Condition 29 through Condition 31. Except as otherwise directed by the department, attach visible emission source testing results to the Facility Operating Report required by Condition 37.

[18 AAC 50.220(b) & (c), 8/15/02][18 AAC 50.320(a)(2)(A-C), 8/15/02]

27.5 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified 40 C.F.R. 60, Appendix A.

[18 AAC 50.220(b) & (c), 8/15/02]
[18 AAC 50.320(a)(2)(A-C), 8/15/02]

27.6 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M.

[18 AAC 50.220(b) & (c), 8/15/02]
[18 AAC 50.320(a)(2)(A-C), 8/15/02]

27.7 Source testing for emissions of any contaminant may be determined using an alternative method approved by the department in accordance with Method 301 in Appendix A to 40 C.F.R. 63.

[18 AAC 50.220(b) & (c), 8/15/02]
[18 AAC 50.320(a)(2)(A-C), 8/15/02]

Condition 28. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 70° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(b) & (c), 8/15/02][18 AAC 50.320(a)(2)(A-C), 8/15/02][18 AAC 50.990(88), 8/15/02]

Condition 29. Test Plans. Before conducting any source tests, the permittee shall submit a plan to the department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the source will operate during the test and how the permittee will document this operation. The permittee shall submit a complete plan within 60 days after receiving a request under Condition 25, and at least 30 days before the scheduled date of any test unless the department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.

[18 AAC 50.345(m), 8/15/2002]
[18 AAC 50.320(a)(2), 8/15/02]
[18 AAC 50.320(a)(2)(A-C), 8/15/02]

Condition 30. Test Notification. At least 10 days before conducting a source test, the permittee shall give the department written notice of the date and time the source test will begin.

[18 AAC 50.345(n), 8/15/2002]
[18 AAC 50.320(a)(2), 8/15/02]
[18 AAC 50.335(g), 8/15/02]

Condition 31. Test Reports. Within 60 days after completing a source test, the permittee shall submit two printed copies of the results in the format set out in the *Source Test Report Outline* adopted by reference in 18 AAC 50.030 and an electronic copy of the report. The permittee shall certify the results as set out in Condition 32. If requested in writing by the department, the permittee must provide preliminary results in a shorter period of time specified by the department.

[18 AAC 50.345(o), 8/15/2002]

[18 AAC 50.320(a)(2), 8/15/02]

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

Section 11. General Record keeping, Reporting, and Compliance Certification Requirements

Condition 32. Certification. The permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal. When certifying a compliance certification, the official's signature must be notarized.

[18 AAC 50.205, 1/15/02]
[18 AAC 50.345(j), 7/11/02]
[18 AAC 50.320(a)(2)(E), 8/15/02]

Condition 33. Submittals. Unless otherwise directed by the department or this permit, send reports, compliance certifications, and other documents required by this permit to ADEC Air Permits Office, 610 University Avenue, Fairbanks, AK 99709.

[18 AAC 50.320(a)(2)(E), 8/15/02]

Condition 34. Information Requests. The permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit, or to determine compliance with the permit. Upon request, the permittee shall furnish to the department copies of records required to be kept by the permit. The department may require the permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200, 8/15/02]
[18 AAC 50.345(i), 8/15/02]
[18 AAC 50.320(a)(2)& 18 AAC 50.320(a)(2)(A-E), 8/15/02]

Condition 35. Record Keeping Requirements. The permittee shall keep all records required by this permit for at least five years after the date of collection, including:

- 35.1 Copies of all reports and certifications submitted pursuant to this section of this permit.
- 35.2 Records of all monitoring required by this permit, and information about the monitoring including:
 - a. Calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;
 - b. Sampling dates and times of sampling and measurements;

- c. The operating conditions that existed at the time of sampling or measurement; not applicable to fuel gas total sulfur content sampling;
- d. The date analyses were performed;
- e. The location where samples were taken;
- f. The company or entity that performed the sampling and analyses;
- g. The analytical techniques or methods used in the analyses; and
- h. The results of the analyses.

[18 AAC 50.320(a)(2)(D), 8/15/02]

Condition 36. Excess Emissions and Permit Deviation Reports.

36.1 Except as provided in Condition 23 the permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

- a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report
 - (i) emissions that present a potential threat to human health or safety; and
 - (ii) excess emissions that the permittee believes to be unavoidable;
- b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or non-routine repair that causes emissions in excess of a technology based emission standard;
- c. report all other excess emissions and permit deviations
 - (i) within 30 days of the end of the month in which the emissions or deviation occurs, except as provided in Conditions 36.1c(ii) and 36.1c(iii);
 - (ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the department provides written permission to report under condition 36.1c(i); and
 - (iii) for failure to monitor, as required in other applicable conditions of this permit.

- 36.2 When reporting excess emissions, the permittee must report using either the department's online form, which can be found at www.dec.state.ak.us/awq/excess/report.asp, or, if the permittee prefers, the form contained in Section 15 of this permit. The permittee must provide all information called for by the form that is used.
- 36.3 When reporting a permit deviation, the permittee must report using the form contained in condition of this permit. The permittee must provide all information called for by the form.
- 36.4 If requested by the department, the permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

Condition 37. Facility Operating Reports. The permittee shall submit an original and two copies of an operating report by August 1 for the period January 1 to June 30, and by February 1 for the period July 1 to December 31. This report must include copies of the records required to be reported by the conditions of this permit. In addition, in accordance with Condition 36 "*Excess Emissions and Permit Deviation Reports*," the report must include a listing of all dates of deviations and excess emissions during the reporting period. If the permittee is certifying the excess emission and permit deviation report pursuant to Condition 32, "*Certification*," then a copy of each excess emission and permit deviation report must be attached to the operating report.

[18 AAC 50.320(a)(2)(A-E), 8/15/02]

Condition 38. The permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, this chapter, and except for those terms and conditions designated in the permit as not federally-enforceable, the Clean Air Act, and is grounds for:

- 38.1 An enforcement action;
- 38.2 Permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or
- 38.3 Denial of a permit renewal application.

[18 AAC 50.345(c), 8/15/02]
[18 AAC 50.320(a)(1), 8/15/02]

Condition 39. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.345(d), 8/15/02]
[18 AAC 50.320(a)(2), 8/15/02]

Condition 40. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.345(a)(3), 8/15/02]

[18 AAC 50.320(e), 8/15/02]

Condition 41. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

41.1 Included and specifically identified in the permit; or

41.2 Determined in writing in the permit to be inapplicable.

[18 AAC 50.345(b), 8/15/02]

[18 AAC 50.320(a)(2), 8/15/02]

Condition 42. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the permittee for modification, revocation and reissue, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

[18 AAC 50.345(f), 8/15/02]

[18 AAC 50.320(a-c), 8/15/02]

Condition 43. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.345(g), 8/15/02]

[18 AAC 50.320(b), 8/15/02]

Condition 44. The permittee shall allow an officer or employee of the department or an inspector authorized by the department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to:

44.1 Enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;

44.2 Have access to and copy any records required by the permit;

44.3 Inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit; and

44.4 Sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.345(h), 8/15/02]

[18 AAC 50.320(a)(2), 8/15/02]

Section 12. Visible Emissions and Particulate Matter Monitoring Plan

Visible Emissions Observations

Condition 45. Visible Emissions Monitoring. The permittee shall observe the exhaust of sources 1, 4, 5, and 7 for visible emissions using either the Method 9 Plan under condition 45.1 or the Smoke/No-Smoke Plan under condition 45.2. The permittee may change visible-emissions plans for a source at any time unless prohibited from doing so by condition 45.3.

45.1 Method 9 Plan. For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

- a. First Method 9 Observation. Observe exhaust for 18 minutes within six months after the issue date of this permit or within 14 calendar days after changing from the Smoke/No-Smoke Plan of condition 45.2, whichever is later.
- b. Monthly Method 9 Observations. After the first Method 9 observation, perform 18-minute observations at least once in each calendar month that a source operates.
- c. Semiannual Method 9 Observations. After observing emissions for three consecutive operating months under condition 45.1b unless a six-minute average is greater than 15 percent and one or more observations are greater than 20 percent, observe emissions at least semiannually for 18 minutes.

Semiannual observations must be taken between four and seven months after the previous set of observations.

- d. Annual Method 9 Observations. After at least two semiannual 18-minute observations, unless a six-minute average is greater than 15 percent and one or more individual observations are greater than 20 percent, observe emissions at least annually.

Annual observations must be taken between 10 and 13 months after the previous observations and must include at least three 18-minute sets of observations.

- e. Increased Method 9 Frequency. If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that source to at least monthly intervals, until the criteria in condition 45.1c for semiannual monitoring are met.

45.2 Smoke/No Smoke Plan. Observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor.

- a. Initial Monitoring Frequency. Observe the exhaust during each calendar day that a source operates.
- b. Reduced Monitoring Frequency. After the source has been observed on 30 consecutive operating days, if the source operated without visible smoke in the exhaust for those 30 days, then observe emissions at least once in every calendar month that a source operates.
- c. Smoke Observed. If smoke is observed, either begin the Method 9 Plan of condition 45.1 or perform the corrective action required under condition 45.3

45.3 Corrective Actions Based on Smoke/No Smoke Observations. If visible emissions are present in the exhaust during an observation performed under the Smoke/No Smoke Plan of condition 45.2, then the permittee shall either follow the Method 9 plan of condition 45.1 or

- a. initiate actions to eliminate smoke from the source within 24 hours of the observation;
- b. keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke; and
- c. after completing the actions required under condition 45.3a,
 - (i) take Smoke/No Smoke observations in accordance with condition 45.2 at least once per day for the next seven operating days and until the initial 30 day observation period is completed; and continue as described in condition 45.2b; or
 - (ii) if the actions taken under condition 45.3a do not eliminate the smoke, or if subsequent smoke is observed under the schedule of condition 45.3c(i) then observe the exhaust using the Method 9 Plan unless the department gives written approval to resume observations under the Smoke/No Smoke Plan; after observing smoke and making observations under the Method 9 Plan, the permittee may at any time take corrective action that eliminates smoke and restart the Smoke/No Smoke Plan under condition 45.2a.

Condition 46. Visible Emissions Record Keeping. The permittee shall keep records in accordance with Condition 46.

46.1 If using the Method 9 Plan of condition 45.1,

- a. The observer shall record
 - (i) The name of the facility, emissions source and location, facility type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet;
 - (ii) The time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;
 - (iii) The presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;
 - (iv) Opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation Record and
 - (v) The minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period;
- b. To determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet;
- c. Calculate and record the highest 18-consecutive-minute average observed.

46.2 If using the Smoke/No Smoke Plan of condition 45.2, record the following information in a written log for each observation and submit copies of the recorded information upon request of the department:

- a. the date and time of the observation;
- b. from Table 1, the ID of the source observed;

- c. whether visible emissions are present or absent in the exhaust;
- d. a description of the background to the exhaust during the observation;
- e. if the source starts operation on the day of the observation, the startup time of the source;
- f. name and title of the person making the observation; and
- g. operating rate (load or fuel consumption rate).

Condition 47. Visible Emissions Reporting. The permittee shall report visible emissions as follows:

47.1 Include in each facility operating report under Condition 37

- a. The visible-emissions plan used for each source (Method 9 versus smoke/no smoke); if more than one plan was used, give the time periods covered by each plan;
- b. for each source under the Method 9 Plan,
 - (i) copies of the observation results (i.e. opacity observations) for each source that used the Method 9 Plan, except for the observations the permittee has already supplied to the department; and
 - (ii) a summary to include:
 - (a) number of days observations were made;
 - (b) highest six-minute average observed; and
 - (c) dates when one or more observed six-minute averages were greater than 20 percent;
- c. for each source under the Smoke/No Smoke Plan, the number of days that Smoke/No Smoke observations were made and which days, if any, that smoke was observed; and
- d. a summary of any monitoring or record keeping required under conditions Condition 45 and Condition 46 that was not done.

47.2 Report under Condition 36 "*Excess Emission and Permit Deviation Reports.*"

- a. The results of Method 9 observations that exceed an average 20 percent for any six-minute period; and
- b. If any monitoring under Condition 45 was not performed when required, then report the event within three days of the date the monitoring was required.

Condition 48. Particulate Matter Monitoring for Diesel Engines. The permittee shall conduct source tests on diesel engines and gas engines, Source IDs 1, 4, 5, or 6A or 7, to determine the concentration of particulate matter (PM) in the exhaust of a source in accordance with Condition 48.

48.1 Within six months of exceeding the criteria of condition 48.2a or 48.2b, either

- a. Conduct a PM source test according to Section 10; or
- b. Make repairs so that emissions no longer exceed the criteria of condition 48.2; to show that emissions are below those criteria, observe emissions as described in condition 45.1 under load conditions comparable to those when the criteria were exceeded.

48.2 Conduct the test according to condition 48.1 if

- a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or
- b. for a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the department has waived this requirement in writing.

48.3 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

48.4 The automatic PM source test requirement in condition 48.1 and 48.2 is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.

Condition 49. Particulate Matter Record Keeping for Diesel Engines. The permittee shall provide the data as is set out in condition 5.1.

Condition 50. Particulate Matter Reporting for Diesel Engines. The permittee shall report as follows:

50.1 Report under Condition 36 if:

- a. The results of any PM source test that exceeds the PM emissions limit; or
- b. If one of the criteria of condition 48.2 was exceeded and the permittee did not comply with either condition 48.1a or 48.1b, this must be reported by the day following the day compliance with condition 48.1 was required;

50.2 Report observations in excess of the threshold of condition 48.2b within 30 days of the end of the month in which the observations occur;

50.3 In each facility operating report under Condition 37, include

- a. The dates, source IDs, and results when an observed 18-minute average was greater than an applicable threshold in condition 48.2;
- b. A summary of the results of any PM testing under Condition 48; and
- c. Copies of any visible emissions observation results (opacity observations) greater than the thresholds

Section 13. Visible Emission Evaluation Procedures

An observer qualified according to 40 C.F.R. 60, RM 9 shall use the following procedures to determine the reduction of visibility through the exhaust effluent.

Position. The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and, when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case, the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses). The observer shall maintain a distance of at least 15 feet from the emission point.

Field Records. The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet. The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on the sheet at the time opacity readings are initiated and completed.

Observations. Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals. Unless directed to do otherwise in this permit, observe emissions for 60 consecutive minutes to obtain a minimum of 240 observations.

Attached Steam Plumes. When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

Detached Steam Plume. When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

Recording Observations. Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on the Visible Emissions Observation Record contained in this Section. Record the minimum number of observations required by the permit. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

Data Reduction. To determine compliance with a standard set out in Condition 13, count the number of observations that exceed 20 percent opacity and record this number on the sheet.

Visible Emissions Field Data Sheet

Certified Observer: _____

Company: _____

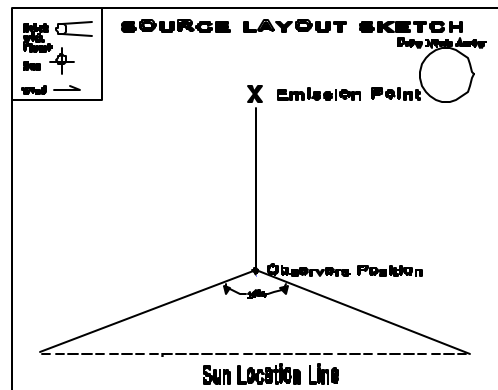
Location: _____

Test No.: _____ Date: _____

Source: _____

Production Rate, Operating Rate &
 Unit Operating Hours: _____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location					
Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions					
Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description:					
Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Visible Emissions Observation Record

Page ____ of ____

Company _____ Certified Observer _____

Test Number _____ Clock time _____

Date:		Visibility reduction every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

Observer Signature

Data Reduction:

Duration of Observation Period (minutes) _____

Number of Observations _____

Number of Observations exceeding 20% _____

Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 14. Material Balance Calculation

If the sulfur content of a fuel shipment is greater than 0.5% by weight, calculate the three-hour exhaust concentration of SO₂ using the following equations:

$$A = 31,200 \times [\text{wt \% } S_{\text{fuel}}] = 31,200 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$B = 0.148 \times [\text{wt \% } S_{\text{fuel}}] = 0.148 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$C = 0.396 \times [\text{wt \% } C_{\text{fuel}}] = 0.396 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$D = 0.933 \times [\text{wt \% } H_{\text{fuel}}] = 0.933 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$E = B + C + D = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$F = 21 - [\text{vol\%}_{\text{dry}} O_{2,\text{exhaust}}] = 21 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$G = [\text{vol\%}_{\text{dry}} O_{2,\text{exhaust}}] \div F = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$H = 1 + G = 1 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$I = E \times H = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\text{SO}_2 \text{ concentration} = A \div I = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ PPM}$$

The **wt % S_{fuel}**, **wt % C_{fuel}**, and **wt % H_{fuel}** are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt %) of sulfur is obtained pursuant to Condition 9 and Condition 10. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol%_{dry} O_{2,exhaust}**) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt % S_{fuel}** = 1.0%, then enter 1.0 into the equations not 0.01 and if **vol%_{dry} O_{2,exhaust}** = 3.00%, then enter 3.00, not 0.03.

Section 15. ADEC Notification Form

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

Company Name _____

Facility Name _____

1. Reason for notification:

☐ Excess Emission

☐ Permit Condition Exceedence

2. Event Information (Use 24-hour clock):

	START Time: (hr:min):	END Time:	Duration
Date: _____	_____:	_____:	_____:
Date: _____	_____:	_____:	_____:
		Total:	_____:

3. Cause of Event (Check all that apply):

☐ START UP

☐ UPSET CONDITION

☐ CONTROL EQUIPMENT

☐ SHUT DOWN

☐ SCHEDULED MAINTENANCE

☐ OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

4. Sources Involved:

Identify each Emission Source involved in the event, using the same identification number and name as in the Permit. List any Control Device or Monitoring System affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____

5. Emission Limit and/or Permit Condition Exceeded:

Identify each Emission Standard and Permit Condition exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Attach additional sheets as necessary.

Permit Condition	Limit	Exceedence
_____	_____	_____

6. Emission Reduction:

Attach a detailed description of ALL of the measures taken to minimize and/or control emissions during the event.

7. Corrective Actions:

Attach a detailed description of ALL corrective actions taken to restore the system to normal operation.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: _____

Signature: _____

Date: _____

Section 16. Emission Factors based on Vendor Data.

Source ID	Source Name	Source Description	Fuel Type	Rating / Size	Fuel Specific N O _x Emission Rate
1	Diesel Back Up Generator #1	CAT D 3512	Diesel	1,206 Hp [887 kW] @ 1,200 RPM	0.680 lb/gallon
2	Gas Peaking Generator #2	CAT G 3516	Gas	1,152 Hp [850 kW] @ 1,200 RPM	0.707 lb/scf x 10 ³
3	Gas Peaking Generator #3	CAT G 3516	Gas	1,152 Hp [850 kW] @ 1,200 RPM	0.707 lb/scf x 10 ³
4	Diesel Back Up Generator #4	CAT D 3512	Diesel	1,206 Hp [887 kW] @ 1,200 RPM	0.680 lb /gallon
5	Diesel Back Up Generator #6	EMD V20-645E	Diesel	3,600Hp[2647kW] @ 900 RPM	0.673 lb /gallon
7	Diesel Back Up Generator # 12	CAT D 343	Diesel	406 Hp [299 kW] @ 1,800 RPM	0.205 lb / gallon
6	Gas Main Generator #11	CAT G 3616	Gas	4811Hp[3538kW] @ 900 RPM	0.240 lb/scf x 10 ³

Definitions:

- The fuel specific NO_x emission rates are based on Vendors emission data.
- The fuel specific NO_x emission rates are based on :
- Source IDs 1 and 4, 80% engine load factor [962 Hp]
- Source ID 5, 100% engine load factor [3600 Hp]
- Source IDs 2 and 3, 85% engine load factor [1033 Hp]
- Source ID 6, engine load factor >49% [> 2357 Hp]
- Source ID 7, engine load factor 80% [325 Hp]

Section 17. *Permit Documents*

October 18, 2002	Air Quality Construction Permit application for the Deadhorse Power Plant TDX, Inc. submitted to ADEC.
October 29, 2002	Supplemental Information Submission for the October 2002 Construction Permit Application, submitted to ADEC.
December 17, 2002	Deadhorse Facility Revision 2—Air Quality Control Construction Permit Application.